REMARKS

Claim 1 is amended hereby. No claims are canceled or added. Accordingly, after entry of this Amendment After Final, claims 1 and 3-12 will remain pending.

In the Final Office Action, the Examiner rejected claims 1, 3, 5, and 7-10 under 35 U.S.C. § 103(a) as being unpatentable over Wyssman (U.S. Patent No. 5,741,275) in view of Nohara (U.S. Patent No. 4,646,925). Claim 6 was rejected under 35 U.S.C. 103(a) as being unpatentable over Wyssman in view of Nohara and further in view of Ahern et al. (U.S. Patent Application Publication No. 2005/0037165). In addition, the Examiner rejected claims 4 and 11-12 under 35 U.S.C. § 103(a) as being unpatentable over Wyssman in view of Nohara and further in view of Yeung et al. (U.S. Patent No. 5,363,890). The Applicant respectfully disagrees with each of these rejections and, therefore, respectfully traverses the same.

The claims in the present patent application are patentably distinguishable over the references cited by the Examiner because they recite a device for controllable delivery of a lubricant that includes, among other features, a cylindrical reservoir with a piston dividing the reservoir into a storage chamber for the lubricant, a pressure chamber for hydrogen gas, and an insert in the pressure chamber containing at least one hydrogen gas generating cell. None of the references relied upon by the Examiner describe or suggest at least this combination of features. As a result, the Applicant respectfully submits that the references, either alone or in combination, cannot render obvious any of the claims in the present patent application.

Wyssmann, describes a device for intentional and controllable distribution of a liquid or viscous material with a component 1 that is essentially a smooth cylindrical container with a bottom 11. (Wyssmann at col. 3, lines 54-59.) The cylindrical component 1 includes a piston 6 that divides the contents of the container into a compressed gas chamber 4 and a mass chamber 5. (Wyssmann at col. 4, lines 4-12.) As noted by the Examiner, Wyssmann does not discuss or suggest any materials from which the walls of the container are made, except that Wyssmann describes the component 1 being made from a "shape-stable plastic." (Wyssmann at col. 3, line 58.) Wyssmann discusses that devices for conveying liquid, semi-liquid, viscous, greasy, or doughy masses are known. (Wyssmann at col. 1, lines 33-34.) While Wyssman discusses a viscous substance such as a lubricant (*see, e.g.*, Wyssmann at col. 7, line 26), there is no discussion of hydrogen gas or a hydrogen gas generating cell. (*See, e.g.*, the gas evolution cell 99 in Wyssmann at col. 6, line 40.)

Since the Examiner recognizes that Wyssmann fails to disclose a reservoir with a wall made from three transparent layers, the Examiner relied on Nohara for this teaching. As a prelude to the discussion of Nohara, the Applicant respectfully directs the Examiner's attention to paragraph [0008] of the Specification. There, one embodiment of the three-layer construction for the wall of the container of the present invention is described. Specifically, the Specification notes that the inner and outer layers may be made from polyethylene terephthalate ("PET") and the barrier layer may be made from a transparent polyamide. Within the same paragraph, the Specification states that the barrier layer may be made from ethylene vinyl alcohol polymer ("EVOH").

Nohara concerns a device quite different from the device described by Wyssmann and is, therefore, considered to be non-analogous prior art. Nohara describes a multi-layer perform for a draw-blow forming a bottle. The preform with a polyester inner layer 8, a gas-barrier layer 9, and a polyester outer layer 10. (Nohara at col. 3, lines 64-65.) Nohara lists polyethylene terephthalate ("PET") as one possible polyester for the inner and outer layers 8, 10. (Nohara at col. 7, lines 14-17.) For the gas barrier layer 9, Nohara describes ethylene-vinyl alcohol copolymer ("EVOH"). (Nohara at col. 7, lines 29-30.) It is noted that the gas barrier layer 9 appears to be directed specifically to prevent carbon dioxide from exiting through the walls of the container (*i.e.*, the beverage bottle) formed from the preform. (Nohara at col. 1, lines 29-39.) It also appears that the gas barrier layer 9 is intended to prevent oxygen from permeating the container from the outside. (Nohara at col. 7, lines 23-24.) Oxygen, it would seem, causes the contents (e.g., carbonate beverages) to spoil over time. (Nohara at col. 4, lines 11-15.)

As should be immediately apparent, Nohara is not directed to a device for controllable delivery of a lubricant. It is directed to a carbonated beverage container **preform**. The Applicant respectfully submits that a preform, by its very definition, is not intended to contain any liquids. A preform is an intermediate device, not a final product and, therefore, not ready for use. Moreover, the beverage bottle created from the preform is not a lubricant delivery device.

The Applicant respectfully submits that the claims directed to the present invention specifically recite a "cylindrical" reservoir. This feature of the reservoir is of some note. In particular, as should be appreciated by those skilled in the art, when a container, such as a beverage container, is created, the container is not cylindrical. As a result, there are areas, such as the curved areas, upon which the gas contained within the container will exert

pressure. This pressure will be unevenly distributed over the irregular interior surface of the container, which is likely to lead to gas pressure losses within the container. Moreover, a non-cylindrical container, as described by Nohara cannot function as a lubricant delivery device because a piston cannot travel within the container and maintain appropriate pressure for the delivery of the lubricant. For this additional reason, therefore, those skilled in the art would not look to Nohara to supplement the disclosure in Wyssmann as suggested by the Examiner.

Next, the Applicant respectfully submits that the construction of the preform and, therefore, the bottle is such so as to prevent the passage of carbon dioxide or oxygen from passing therethrough in low pressure conditions. Specifically, Nohara describes a thin intermediate layer. (*See, e.g.*, Nohara, at claim1.) The thickness of this layer is between 3 – 30 μm. (Nohara at col. 7, lines 44-45.) With such a construction, it is unlikely that the preform or the beverage container made from the preform would have walls that present a sufficient thickness to retain hydrogen under high pressure. As should be apparent, carbon dioxide (CO_2) and oxygen (O_2) are considerably larger molecules than hydrogen (H_2). As a result, those skilled in the art would not look to Nohara for any teachings concerning how to modify Wyssmann to arrive at the present invention. Moreover, even if Wyssmann were modified to include the construction described by Nohara, the layer thicknesses are such that molecular hydrogen would likely permeate through the "thin" layer and, therefore, fail to behave in a manner consistent with the discussion in the Specification.

With respect to the construction of the lubricant delivery device of the present invention, the Applicant respectfully notes that the intermediate layer may be 30 – 60% or 40 – 50% of the thickness of the entire wall. As noted above, Nohara describes a construction for the preform where the intermediate layer is 3 – 30 μm, preferably 5 – 15 μm, and that the inner and outer layers be 800 to 40 μm, preferably 400 to 60 μm. As should be apparent, these thicknesses of the inner and outer layers is considerably greater than that of the intermediate layer. Therefore, the proportional construction of the walls described by Nohara cannot meet at least the limitations recited at least by claims 8-10. Moreover, these figures are presented for the preform, and not the final container. Accordingly, the thicknesses of the layers will be considerably less after the preform is blown into the shape of a beverage container.

As noted in the Specification, at paragraph [0019], the delivery device is intended to operate for "periods of time up to one year or more and to still satisfactorily operate the

device at counterpressures of over 5 bar." The Applicant respectfully submits that the preform and the beverage bottle described by Nohara cannot meet these operational characteristics. For this reason, the Applicant respectfully disagrees with the Examiner's position that the thicknesses of the layers would be within the knowledge of those of ordinary skill in the art.

With respect to claim 6, the Applicant respectfully notes that polyamide is recited as a material for the intermediate layer 4b. Polyamide is not mentioned as a possible material in Nohara. As discussed above, Nohara describes EVOH, a nylon resin, a high nitrile resin, or a vinylidene-chloride resin. (Nohara at col.7, lines 29-32.) The Examiner relies on Ahern et al. for this teaching.

Ahern et al. describes a plastic tube 10 with multiple polymeric layers without mixed interfacial regions. (Ahern et al. at paragraph [0025].) Three layers forming a skin-core-skin arrangement are described, with the inner and outer layers surrounding the central layer. (Ahern et al. at paragraph [0025].) The skin layers are made from one material while the central layer is another material. (Ahern et al. at paragraph [0025].) Materials used to construct the plastic tube 10 include those that inhibit gas and liquid permeability. (Ahern et al. at paragraph [0026].)

Ahern et al. discusses that the core layer (*e.g.*, cyclic olefin copolymers ("COC") or polypropylene "PP") may provide a liquid vapor barrier while the skin layer (*e.g.*, ethylene vinyl alcohol copolymers ("EVOH") or polyester) provides a gas barrier. (Ahern et al. at paragraph [0032].) For the embodiment described in paragraph [0032], only EVOH and polyester are listed as possible gas barriers when used as a core (or intermediate) layer. In the prior embodiment described in paragraph [0026], to which the Examiner refers, polyamides may be used for the gas barrier layers. However, in this embodiment, polyamides are the skin layers, not the intermediate (or core) layer. The absence of polyamides as the core layer in the description in paragraph [0032] suggests strongly that polyamides were not considered by Ahern et al. as suitable core layer materials. If polyamides were considered appropriate, it follows logically, that polyamides also would have been listed in paragraph [0032]. As a result, the Applicant respectfully submits that Ahern et al. does not supplement the discussions in either Wysmann or Nohara to render obvious claim 6. At least for this reason, therefore, the Applicant respectfully requests that the rejection of claim 6 be withdrawn.

In addition, the Applicant respectfully points out that the device in Ahern et al. is a plastic tube used in a non-pressurized state (*e.g.*, for blood collection). (*See, e.g.*, Ahern et al.

at the Abstract.) Ahern et al. excludes features such as a piston, a gas chamber, and a storage chamber, among others. There is nothing in Ahern et al. that would motivate those skilled in the art to combine the plastic tube described by Ahern et al. with the device described by Wyssmann. As a result, the combination of Ahern et al. would not be considered by those skilled in the art.

Concerning claims 4 and 11-12, the Examiner relied upon Yeung for the teaching of a membrane closure. Yeung describes a nonspill bottled water replacement system. Despite a generic discussion of a closure, there is nothing in Yeung that addresses the deficiencies of the references previously discussed. As such, the combination of Yeung with the other references does not assist the Examiner with a rejection of the claims in the present patent application.

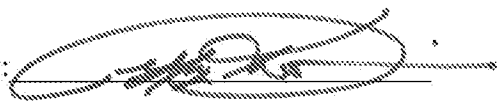
At least for these reasons, therefore, the Applicant respectfully submits that the combination of Wyssmann, Nohara, Ahern et al., and Yeung et al. does not render obvious any of claims 1 or 3-12.

For the reasons set forth above, the Applicant respectfully submits that claims 1 and 3-12 are patentably distinguishable from the prior art. As such, the Applicant respectfully requests that the Examiner withdraw the rejections of the claims and pass this application quickly to issuance.

If there are any fees required for this submission that are not otherwise accounted for, please charge Deposit Account No. 02-1010. In addition, please credit any overpayments to the same Deposit Account.

Respectfully submitted,

BARNES & THORNBURG LLP

By: 

Date: September 15, 2009
Barnes & Thornburg LLP
750 17th Street, NW Ste. 900
Washington, DC 20002

Jeffrey D. Karceski
Reg. No: 35,914
Tel. No.: (202) 371-6359
Fax No.: (202) 289-1330

Customer No. 23646